

## VO6NB-A

## VOLTMETER, FREQUENCY SELECTIVE

**1. GENERAL.** This procurement requires a frequency selective voltmeter.

**2. CLASSIFICATION.** Type II, Class 5, Style E, and Color R in accordance with MIL-T-28800 for shipboard applications.

**3. REQUIRED CHARACTERISTICS.** The equipment shall be capable of signal level measurements within the minimum ranges, accuracies, and selectivities specified below.

**3.1 Selectivity.** Selectable narrow, wide, and flat bandwidths shall be provided.

a. Narrow: 80 Hz at -3 dB, less than 200 Hz at -60 dB.

b. Wide: 3.1 kHz at -3 dB, less than 6.3 kHz at -60 dB.

c. Flat: At least 1 kHz to 3 MHz.

**3.2 Input system compatibility.** Selectable 50, 75, 135, and 600 ohm inputs shall be provided. The 50 and 75 ohm inputs may be configured for unbalanced operation only.

**3.3 Input level.** -100 to 20 dBm when the narrow or wide mode is selected and -50 to 20 dBm when the flat mode is selected.

**3.3.1 Input impedance.** For each compatible system, referenced to a frequency of 100 kHz, selectable terminating and minimum bridging input impedances shall be provided as listed in table I.

TABLE I. Input Impedance.

System	Terminating	Bridging (unbalanced)	Bridging (balanced)
50	50 $\pm$ 1%	1.7k	NA
75	75 $\pm$ 1%	2.0k	NA
135	135 $\pm$ 1%	3.8k	3.8k
600	600 $\pm$ 1%	NA	4.5k
Note: All values are in ohms.			

**3.3.2 Amplitude accuracy.**  $\pm$ 0.5 dB.

**3.4 Frequency range.** 1 kHz to 3 MHz.

**3.4.1 Frequency indicator.** An indicator that continuously displays the tuned frequency of the equipment shall be provided. Resolution: 100 Hz.

**3.4.2 Frequency accuracy.**  $\pm$ (100 Hz + 1 count).

**3.5 Bridging loss.** The bridging loss for each system impedance within the frequency limits specified shall not exceed the values shown in table II.

**3.6 Spurious response.** Direct IF and image frequency rejection: 70 dB minimum.

**3.7 Indicators.** The indicators shall include a digital frequency readout and a mirror-backed scale amplitude meter. A 3-1/2 digit digital readout with a supplemental analog peaking meter may be used for amplitude readout.

TABLE II. Bridging Loss.

<u>System Impedance</u>	<u>Frequency Limits</u>	<u>Bridging Loss</u>
600 ohms	3 to 500 kHz	0.5 dB
	500 to 620 kHz	1.0 dB
135 ohms	10 kHz to 1 MHz	0.25 dB
	1 to 2.8 MHz	0.5 dB
	2.8 to 3 MHz	0.75 dB
50, 75 ohms	10 kHz to 3 MHz	0.25 dB

**3.8 Calibrator.** An internal source shall be provided for operator verification of equipment frequency and level measurement operation.

**3.9 Audio output.** An output for monitoring AM and upper and lower sideband audio shall be provided.

#### **4. GENERAL REQUIREMENTS.**

**4.1 Power source.** MIL-T-28800 nominal and dc internal power source requirements are invoked as detailed below.

**4.1.1 Nominal power source.** Maximum power consumption: 40W.

**4.1.2 DC internal power source:** Internal batteries and charger are required. Minimum operating time shall be 4 hours following a maximum recharge time of 16 hours.

**4.2 Weight.** 20 kg (44 lb) maximum.

**4.3 Lithium batteries.** Per MIL-T-28800, lithium batteries are prohibited without prior authorization. A request for approval for the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.

**4.4 Maintenance accessories.** Accessory cables and extender boards required for preventative and corrective maintenance shall be provided.